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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,614	06/25/2003	Yukihiro Nakano	239459US0	2488

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,614

Applicant(s)

NAKANO ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 13 is/are rejected.
- 7) ☒ Claim(s) 9,11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. All outstanding rejections are overcome by applicants' amendment filed 1/20/06. It is noted that applicants' filing on 1/20/06 of English translations of foreign priority documents previously filed 6/25/03 perfects the foreign priority filing date.

The indicated allowability of claims 1-5 is withdrawn in view of the new grounds of rejection set forth below utilizing Akers, Jr. et al. (U.S. 6,652,634).

In light of the new grounds of rejection set forth below, the following action is non-final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Akers, Jr. et al. (U.S. 6,652,634).

Akers, Jr. et al. disclose water-based ink comprising pigment contained in water-insoluble, i.e. prepared from monomers including hydrophobic monomers, graft copolymer dispersant wherein the graft copolymer is prepared using chain transfer agent such as 3-mercapto-1,2-propanediol. Given that Akers, Jr. et al. disclose that the dispersant "fully covers"

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the pigment, it is clear that the pigment is contained in the dispersant as presently claimed (col.1, lines 9-10 and 51-54, col.3, lines 49-55, col.4, lines 16-25, and col.8, lines 27-29 and 39-49).

Although there is no explicit disclosure that the polymer has at least two hydroxyl groups at its end, given that the polymer is prepared using 3-mercapto-1,2-propanediol chain transfer agent identical to that presently claimed, it is clear that the polymer would inherently possess at least two hydroxyl groups at its end as presently claimed.

In light of the above, it is clear that Akers, Jr. et al. anticipate the present claims.

4. Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Miyabayashi '302 (U.S. 6,864,302).

Miyabayashi '302 discloses aqueous ink jet comprising pigment encapsulated by water-insoluble polymer obtained using initiator such as 2,2-azobis(2-amidinopropane)dihydrochloride, 2,2-azobis(2-methyl-2-imidazolin-2-yl)propane)dihydrochloride, and 4,4-azobis(4-cyanovaleric acid) (col.1, lines 6-15, col.4, lines 11-14, col.16, lines 36-43, col.17, line 63-col.18, line 5, col.18, lines 54-55, and col.32, line 61-col.33, line 19). Given that Miyabayashi '302 discloses preparing polymer from initiator having ionic group identical to those used in the present invention, it is clear that the polymer would inherently possess ionic group at its end as presently claimed.

In light of the above, it is clear that Miyabayashi '302 anticipates the present claims.

5. Claims 7 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyabayashi (U.S. 6,602,333).

Miyabayashi '333 discloses aqueous ink jet comprising pigment encapsulated by water-insoluble polymer obtained using initiator such as 4,4-azobis(4-cyanovaleric acid). Miyabayashi '333 also disclose process for preparing a water-based ink comprising dissolving pigment and polymer in organic solvent, adding water, neutralizer and, optionally, surfactant, mixing, and then distilling off organic solvent (col.1, lines 8-11, col.19, lines 42-45, col.22, lines 44-47, and col.23, lines 12-37). Given that Miyabayashi '333 discloses preparing polymer from initiator having ionic group identical to those used in the present invention, it is clear that the polymer would inherently possess ionic group at its end as presently claimed.

In light of the above, it is clear that Miyabayashi '333 anticipates the present claims.

Allowable Subject Matter

6. Claims 9, 11, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 9, 11, and 12 would be allowable if rewritten in independent form as described above given that while Miyabayashi '302 (U.S. 6,864,302) and Miyabayashi '333 (U.S. 6,602,333) each disclose aqueous ink jet comprising pigment encapsulated by polymer obtained using initiator such as 4,4-azobis(4-cyanovaleric acid), i.e. polymer has an ionic group at its end, there is no disclosure or suggestion in either Miyabayashi '302 or Miyabayashi '333 (i) that the ionic group on the polymer is derived from thioglycolic acid, mercaptopropionic acid, or mercaptosuccinic acid as required in present claim 9 or (ii) that the polymer is obtained by

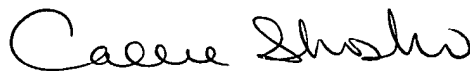
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copolymerizing a monomer mixture comprising salt-forming group containing monomer, macromer, and copolymerizable monomer as required in present claims 11-12.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
3/31/06